

REMARKS

Claims 15-29 are pending. No claims are amended, cancelled, or added herein. The office action is addressed below.

35 USC §102 - Anticipation

The Examiner rejects claims 15-25, 27 and 29 under 35 USC §102(b) as allegedly anticipated by Dower et al (US Pat No. 5,708,153). The Examiner asserts that Dower discloses a synthetic oligomer library that incorporates identifier tags and that the identifier tags may be any recognizable feature such as microscopically distinguishable in shape, size, color, or optical density. The Examiner asserts that these features read on the limitation “characterised by at least two detectable and/or quantifiable attributes associated with a carrier, with the proviso that one of said attributes is other than shape.” The Examiner further asserts that Dower discloses two or more distinctly different populations of solid supports. The Examiner concludes from these assertions that Dower et al anticipates claims 15 and 16. Applicants respectfully disagree.

Independent claim 15 is drawn to “a plurality of carriers on which a plurality of different compounds can be synthesised, including a population of detectably distinct carriers each having a code, which distinctly identifies a respective carrier before, during and after said synthesis from other carriers....” (emphasis added). In other words, the population of detectably distinct carriers has “pre-encoded” information in the form of at least two detectable and/or quantifiable attributes integrally associated with individual carriers, which distinctively identifies the individual carriers before, during and after synthesis of the compounds on these carriers from other carriers. Thus, the carriers of the claimed invention contain the detectable and/or quantifiable attributes prior to the synthesis steps and retain those attributes during the synthesis steps and thereafter, allowing the individual particles to be tracked throughout the synthetic process.

In contrast, Dower et al. disclose the sequential attachment of identifier tags at different steps in the synthetic reaction history of a solid support to identify the oligomer resulting from the synthesis. Thus, the purpose of the Dower invention is to attach identifiers to solid supports at certain steps in a split-process-recombine procedure to track the reaction history of a

particular solid support. Dower et al. do not disclose carriers with pre-encoded information as in the claimed invention. Dower et al. merely disclose the use of flow cytometry as a means to analyze the fluorescent tags attached to individual supports at the completion of compound synthesis. Accordingly, Dower et al. do not anticipate claim 15 of the instant application, and as each of the remaining rejected claims depends from claim 15, applicant respectfully requests withdrawal of the rejection of claims 15-25, 27 and 29 based upon the Dower reference.

The Examiner rejects claims 15-29 under 35 USC §102(b) as allegedly anticipated by Zarling et al. (US Pat No. 5,674,698). The Examiner asserts that Zarling discloses compositions comprising fluorescent organic dyes attached to inorganic up-converting phosphors; wherein several phosphors/dyes are selected which have overlapping absorption bands which allows simultaneous excitation at one wavelength, but which vary in emission characteristics such that each probe-label species is endowed with a distinguishable "fingerprint." The Examiner further asserts that these fingerprints read on Applicants' limitation for having at least two quantifiable attributes, because more than one dye is being quantified. Finally, the Examiner asserts that other quantifiable attributes in addition to the dyes would be size, shape, etc., and therefore, Zarling anticipates claims 15 and 16 of the instant application. Applicants respectfully disagree.

The up-converting labels and compositions disclosed by Zarling are concerned with specifically labeling individual biological molecules or other analytes (see column 5, lines 23-27 and 42-47). The skilled person would recognize that such specific labeling would require the conjugation of specific up-converting labels or compositions to an individual analyte so that those labels or compositions can be used to identify that analyte. Claim 15 requires, and Zarling does not teach, "[a] plurality of carriers on which a plurality of different compounds can be synthesized..." (emphasis added). The carriers of the claimed invention are pre-encoded with information that identifies individual carriers for use in combinatorial compound synthesis. Zarling merely uses phosphors as a label for the "sensitive detection of analytes," and therefore does not distinctly identify the respective carriers. Zarling Abstract. Thus, Zarling does not teach all of the elements recited in, and therefore does not anticipate, claim 15.

The Examiner asserts that Zarling anticipates claims 15-29, but only specifically addresses claims 15 and 16 in his analysis. Nevertheless, claims 16-29 all depend from claim 15

and as that claim is not anticipated by Zarling, as demonstrated above, Applicants respectfully request withdrawal of the rejection of all pending claims as anticipated by Zarling.

The Examiner rejects claims 15-25, 27 and 29 under 35 USC §102(b) as allegedly anticipated by Nova et al (US Pat No. 5,751,629). Specifically, the Examiner asserts that the matrix material taught by Nova corresponds to the carriers of the instant application and the "remotely addressable or remotely programmable recording devices ("memory") taught by Nova correspond to the attributes that are detectable and/or quantifiable in the instant application. The Examiner asserts that the information in the memory of Nova identifies or tracks the biological particle or molecule.

Applicants respectfully disagree that the system taught by Nova anticipates any of the rejected claims. Nova's "memory" is an electronic device, complete in some cases with an antenna, that can be programmed with information about the molecules in the synthesis. Most notably, "the memory of each particle is addressed and the identity of the added component is encoded in the memory at...each step in the synthesis. At the end of the synthesis, the memory contains a retrievable record of all the constituents of the resulting molecule, which can then be used, either linked to the support, or following cleavage from the support in an assay or for screening or other such applications." Col. 8, lines 2-9 (emphasis added). Thus, Nova does not teach, as claim 15 requires, a population of detectably distinct carriers, which are pre-encoded with information that identifies individual carriers before, during and after synthesis of compounds on the carriers. Rather, Nova teaches that the "memory" is encoded with information corresponding to each step of the synthesis "before, during, or preferably after" each step of the synthesis. Accordingly, Nova does not anticipate claim 15 of the instant application.

While the Examiner has not specifically set forth the reasons for rejecting claims 16-25, 27 and 29, each of those claims depend from claim 15, which has been demonstrated above not to be anticipated by Nova. Accordingly, Applicants respectfully request withdrawal of the rejection of all claims based upon the Nova reference.

CONCLUSION

In view of the above amendments and arguments, Applicants respectfully request the withdrawal of all rejections of the pending claims and that the case be passed to allowance.

Respectfully submitted,

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By

A handwritten signature in black ink, appearing to read 'John P. Isacson', is written over a horizontal line.

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